

Name Porcess, I agree with *Gesner*, that it was so called, *quasi Porcus Piscis*, most nations calling this fish *Porcus Marinus*, or the Sea-swine. Indeed it resembles a Swine in many particulars, as the fat, the strength of the snout, &c.

A Letter of Francis Willoughby Esquire, of August 24. 1671.
Containing some considerable Observations about that kind of Wasps, call'd Vespæ Ichneumones; especially their several ways of Breeding, and among them, that odd way of laying their Eggs in the Bodies of Caterpillars, &c.

AS I remember, M. *Lister's* opinion is, that the *Muscæ Ichneumones* lay their Eggs in the bodies of Caterpillars; which I look upon as very ingenious and true, and must subscribe to it, though I cannot yet absolutely demonstrate it, as I hoped I should have done before this. These *Ichneumones* have all four wings, *Antennæ* like Bees; their body hanging to their breast by a slender ligament, as in Wasps; most, if not all, have stings, and are made of a maggot, that spins her self a *Theca* before she turns into a *Nympha*. There is great variety of them; *Some* breed, as Bees do, laying an Egg, which produceth a maggot, which they feed till it comes to its full growth: *Others*, as we guess, thrust in their Eggs into plants, the bodies of living caterpillars, maggots, &c. For, it is very surprizing to observe, that a great Caterpillar, instead of being changed into a Butter-fly (according to the usual course of nature;) should produce sometimes one, sometimes two or three, and sometimes a whole swarm of *Ichneumones*. I have observed this Anomalous production in a great many sorts of Caterpillars, both hairy, and smooth; in several sorts of maggots, and, which is most strange, in one Water-insect. When there come many of these *Ichneumon* maggots out of the body of the same Caterpillar, they weave all their *Theca's* together into one bunch, which is sometimes round with web about it just like a bag of spiders Eggs; but I dare venture to answer M. *Lister's* 10th Quære pag. 2172, of the Phil. Trans. negatively, that none of them feed upon spiders Eggs, but it is the similitude of those *Theca's*, congregated together, to

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the Eggs of Spiders, that hath occasioned the conjecture.

One of the green Caterpillars, common in the Heaths in the North, went so far on to her natural change, that she made her self up into a great brown *Theca*, almost of the shape of a bottle, which was filled with a swarm of *Ichneumones*. And I have observed in one or two other sorts, that from the very *Aurelia* it-self hath come an *Ichneumon*; which is very odd, that the Caterpillar, stung and imprægnated by the *Ichneumons*, should be yet so far unhurt, and unconcerned, as to make her self a *Theca*, and to be turned into an *Aurelia*.

I have often seen a great *Ichneumon* dragging a Caterpillar in the high-way. This year Mr. *Wray*, in company with another ingenious neighbour, observed one haling a large green caterpillar much bigger than her self, which after she had drawn the length of a pearch, she laid down, and then takes out a little pellet of Earth, with which she had stopped the mouth of a small hole like a worm-hole; then she goes down into it, and staying a very little comes up again, and draws the *eruca* down with her into the hole, and there leaves her; and afterwards not only stops but fills up the Hole, sometimes carrying in little clods, and sometimes scraping dust with her feet, and throwing it backwards into the hole, going down after her self, to ram it close. Once or twice she flew up into a Pine-tree, which grew just over her hole, perhaps to fetch Cement; When the hole was full and even with the superficies of the ground about it, she draws two Pine-tree-leaves, and lays them near the mouth of the hole, and flyes away. Not taking notice that she came any more in three or four days, we digged for the Caterpillar, and found it pretty deep. I put it into a box, expecting it would have produced an *Ichneumon*, but it dried away and nothing came of it. We lately observed a sort of *Ichneumons*, or rather *vespæ*, which prey upon several sorts of flies; when they fly with them, they hold them by the heads, and carry them under their bellies. These make holes a great depth in the ground, in which they lay their young, and feed them with the flies they catch, creeping backwards into the ground, and drawing the flies after them. I suspect they may at first lay their Eggs in the very body of a fly,

fly, but one fly being not enough to bring the young one to its full growth, they feed it with more : Their *Theca's* are at last all covered over with the wings, legs, and other fragments of flies.

*A Letter of Mr. Martin Lister, written at York August 25 1671.
confirming the Observation in No 74. about Musk-sentent Insects;
adding some Notes upon D. Swammerdam's book of Insects, and
on that of M. Steno concerning Petrify'd shells.*

SIR,

I Have observed the two Insects, which Mr. Ray saith, smell of Musk, which indeed they do in an high degree. The small Bees are very frequent in the Wooles in Lincoln-shire, and about the latter end of April are to be found in pastures and meadows, upon the early-blown flowers of a sort of *Ranunculus*, as You have been rightly inform'd ; but it is something improper to say Bees feed on flowers : And likewise the same Bees are no less frequent on the flowers of *Dens Leonis*, &c. The sweet Beetle, is a very large Insect, and well known about Cambridge. All the trials I have made to preserve them with their smell, have proved ineffectual : For, both sorts of these Insects will of themselves in a very few weeks become almost quite sent-less. To these I shall add another sweet-smelling Insect, which is a Hexapode-worm feeding on *Gallium luteum*.

The Observation of the *Vespa Ichneumones*, as it hath relation to Spiders, I willingly reserve for other Papers : yet I may tell you in general, that this kind of Insect is one of the greatest puzzels in nature ; there being few Excrescencies of Plants, and very many births of Insects, wherein these slender Wasps after divers strange ways are concerned.

Though I be at present from my Books, yet I well remember the passage, which Mr. Willoughby refers you to in *Muffet* *. And he is well able to judge, whether the Observation be made upon the same sort of Insect. I conceive it a fault not consistent with Ingenious Spirits, to pass by in silence the Industry